



MATHEMATICS TEACHERS AND JOB PERFORMANCE IN SCHOOLS

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Abstract

This paper looked at the concept of mathematics teacher and functions of mathematic teachers in the schools. The paper also looks at mathematics teacher job performance in the school and the factors that can enhance mathematics teacher's job performance in the schools. Secondary data were used in the paper. The data were collected from print and online publications. The paper concluded that adequate funding, supervision, training, conducive working environment, motivation and provision of instructional materials are factors that enhances job performance of mathematics.

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Introduction

Mathematics programme is a science programme. It is a programme that is calculation inclined. Mathematics programme is vital to the social, economic and technological development of the country. Mathematics programme is one of the core-subjects that Nigerian secondary schools are offering. Mathematics is an important programme in Nigerian Secondary schools. The secondary school mathematics has the following objectives as identified by Comparative Education Study and Adaptation Centre (CESAC) a) to develop computational skills and foster the desire and ability to be accurate in a degree relevant to the problem at hand. b) to develop precise, logical and abstract thinking. c) to develop ability to recognize problems and to solve them with related to mathematics knowledge. d) to provide necessary mathematical background for further education and e) to stimulate and encourage creativity, originality and curiosity in learner (Timothy, Sunday & Ogunode, 2021).

Mathematics is a science related programme and logical in nature. Mathematics programme cover a lots of programme. Mathematics can be defined as a group of related sciences, including geometry, calculus and algebra, which is focused on the study of number, space, shape, and quantity, and how they interrelated using a specialized notation. Mathematics is a brain thinking exercise directed at providing solutions to human problems and attracted many skilled and unskilled scientists to found it an excellent vehicle for the application of their talents and skills. Mathematic is involved in the solution of a problem or study of some

scientific field (Ogunode, 2020 and Info-guide Nigeria, 2018). The teaching of mathematics is done by a professional mathematics teachers in the educational institutions. A mathematics teacher is person trained with the methods and knowledge of imparting mathematics knowledge to learners in an educational institution.

Mathematics Teachers

A professional mathematics teachers is a person that possess a Bachelor's degree in education with a specialization in mathematics, or equivalent, proven skills as a Mathematics teacher, a thorough training in mathematics teaching methods, understanding of best practices in teaching, excellent verbal and written communication skills, organized, flexible disposition and outstanding interpersonal skills. A professional mathematics teachers is a certified individual which undergone training and acquired necessary mathematics skills and knowledge and have been issued a certificate of graduation.

The functions and responsibilities of a professional mathematics teachers includes, planning and presenting lessons to facilitate students' understanding and application of mathematical concepts, preparing and distributing learning material such as notes, assignments, and quizzes, sourcing the resources and supplies needed for lessons, ensuring that the classroom remains safe and conducive to learning, grading assignments and quizzes in a timely manner, invigilating quizzes and final examinations, documenting and reporting on students' progress and attending meetings with parents and staff. Mathematics teachers teach mathematical concepts and formulas to students from elementary to high school. They explain mathematics concepts, develop classroom materials, organize activities, assign homework, grade tests, and prepare students for examinations. They demonstrate excellent mathematics skills and analytical thinking alongside solid instruction. They impart required mathematics curriculum to their students, including preparing for standardized tests or college entrance exams. Mathematics teachers instruct students and create lesson plans, assign homework, and manage the classroom. They communicate with parents and, if necessary, will refer a student or pupil to seek outside help including a tutor. Mathematics teachers may also teach adults or continue their careers at community colleges or universities. Mathematics teachers need a minimum bachelor's degree in education or mathematics with teacher education courses and state licensing where applicable (Glassdoor, 2016).

Job Performance of Mathematics Teachers in Schools

Mathematics teacher job performance is the implementation of teacher's assigned responsibilities in the school. Teacher job performance is the extent to which the teachers are carrying out their official responsibilities in the schools (Ogunode 2023a). Mathematics teacher job performance refer to the execution of instructor's responsibilities and tasks in the educational institutions. Teacher job performance is the level by which the teachers accomplished their given functions and assignment in the schools (Ogunode 2023a). Mathematics teachers' job performance according to Zaifada, Olowonefa and Ogunode (2023) is the degree to which teachers execute their official responsibilities in the school. Teachers' job performance is the capacity to effectively inculcate the three domains such as cognitive, psychomotor and affective in the learners. Teachers' job performance covers the roles of the teachers to substitute for the parent's roles in the schools. A teacher's job performance is the duties performed by a teacher in a particular period in the school system in achieving organizational goals (Obilade as cited in Selamat & Tautig, 2013). Mathematics teachers' job performance could be measured through teachers' job satisfaction and job attitudes such as job commitment, feelings of job challenge, job meaningfulness and job responsibility. (Ogunode 2023a) noted that teacher job performance can either be high or low in the school. Teacher job performance is high when the teachers carried out their responsibilities as assigned and the result manifest on students' academic performance in the schools. Teacher job performance can be regarded as low when the teacher's fails to execute their functions as assigned and the performance of the students is poor.

Factors that Enhances Job Performance of Mathematics Teachers in Schools

There are many factor that can enhance mathematics teacher's job performance in the schools. Some of these factors includes; adequate funding, supervision, training, working environment, motivation and instructional materials.

Adequate funding

Funds are monies for implementation of programme in institutions. Funds are financial resources meant for the administration and management of an organization. Funds are monies used to implement educational services. Funds are very important in the administration of educational institutions (Ogunode & Musa, 2021). Azenda, Ibrahim and Emmanuel (2023) asserted that adequate funding of mathematics education will lead to employment of more professional mathematics teachers in the Nigerian schools. Mathematics teacher is a professional, who imparts mathematics knowledge to the students in an educational institutions. Mathematics teachers guide, direct and facilitate teaching and learning of mathematics and mastery of the skills in mathematics. Mathematics teachers are very important in the implementation of mathematics programme. To ensure quality delivery and quality assurance in mathematics programme there is need to equivalent ratio of mathematics teacher and students in all classes. This can be achieved through adequate funding of mathematics programme in the schools. Also, Azenda, et al (2023) maintained that adequate funding of mathematics programme will lead to ; adequate funds for administration of mathematics programme, employment of Adequate Mathematics Teachers, Mathematics laboratories, Mathematics instructional material, motivation of Mathematics Teachers, effective supervision, capacity building and modern mathematics library

Supervision

Effective supervision of mathematics teachers as the capacity to improve his or her job performance in the schools. Nwaogu in Ogunode and Fabiyi, (2023) viewed supervision as the process of bringing about improvement in structure by working with people who are working with pupils. Supervision is a process of stimulating growth and a means of helping teachers to help themselves. Supervision is used to describe those activities which are primarily and directly concerned with studying and improving the conditions which surround the learning and growth of pupils and teachers. The word, supervision was derived from a Latin word, "Supervideo" meaning to "oversee". Supervision according to Ogunode and Ibrahim, (2023) is a programme of instruction designed to improve teachers' job performance and students' academic performance in schools. Instructional supervision is a combination of activities meant to advance the work effectiveness of teachers and other personnel in the school business. Supervision is the process of improving teaching and learning in educational institutions because of realizing the goals of education. Instructional supervision is critical to the development of education. Musa (2017) noted that supervision of mathematics programme will lead to improvement in job performance of mathematics teachers; it will lead to improvement in students' academic performance in schools; supervision of mathematics programme will help to improve teacher's skills in teaching methods.

Training

Another factor that can enhance mathematics teacher job performance is effective training. Azenda, et al (2023) observed that training or capacity building is a training designed for the improvement of teachers' job performance in the schools. Capacity building is a special training for teachers to improve their skills and productivities. Capacity building of mathematics teacher is a special training given to mathematics teachers to help in developing their skills, knowledge and their teaching methodologies. Sa'ad, Adamu and Sadiq (2014) suggested an effective staff training to boost morale and job performance of mathematics teachers in public secondary schools.

Working Environment

Work environment comprises the totality of forces, actions and other influential factors that are currently and, or potentially contending with the employee's activities and performance. Work environment is the sum of the interrelationship that exists within the employees and between the employees and the environment in which the employees work (Kohun, 1992). Chandrasekar (2011) examined that the workplace environment impacts on employee morale, productivity and job performance both positively and negatively. If the work place environment is not liked by the employees so they get de-motivated and their performance also

affected. Poorly designed work timings, unsuitable authorities or duties, lack of appreciation, and lack of personal decision making opportunity. People working in such environment are not satisfied they feel stress on themselves and it impacts on employee's job performance. Alemu (2022) studied how the workplace environment affects the performance of staff at the Wollo University. The study found that all workplace environment factors had a positive linear relationship with work place performance at the university. Work life balance and reward for employees were also found to have strong linear associations with workplace performance. Femi, (2013) recommended for provision of conducive work environment to increase job productivities of mathematics teachers in the schools.

Motivation

Ogunode, Kasimu, and Ibrahim, (2023) viewed motivation as perceived as an invisible force that compel and inspire individuals towards one direction or action for a greater productivity. Motivation is defined according to Inayatullah and Jehangir (2017) as a driving force that compels an individual to take some actions in order to achieve certain goals. Motivational level of everyone is different like perception, attitude of everyone is different. Mathematics teacher motivation is key to their job performance. Josiah, Audu, and Ogunode, (2023) defined motivation as that forces that influence an individual to give his or her best in an institutions and in realization of goals. Ogunode, Salman and Ayoko, (2023) submitted tat motivation is capable of improve job performance of teachers in the schools. Inayatullah & Jehangir (2017) found that there was a significant difference in motivation and performance with regard to gender and income whereas qualification and teaching experience was not found to be associated with motivation and job performance. Thus, the research concluded that most of the teachers were not satisfied with their salaries and low salaries of the teachers affected their performance. Davidson (2005) found that bad working conditions have adverse effects in teacher's performance. It could be improve by providing benefits to them. Therefore, job performance is that function which is based on motivation. There should be motivation in schools to have a better teacher's job performance. Mustafa and Othman (2010) examined the perceptions of high school teachers about the effects of motivation on their performance at work. They found that there is a positive relation between motivation and working performance of teachers, i.e., the greater the level of motivation the higher will be the teacher's job performance or if provide a high level of motivation to a teachers then their job performance will be increase. The main benefits of motivation are that the organization can use the human resources in an appropriate way, for this the employee are willing to work itself.

Instructional Materials

Ogunode and Josiah (2023) observed that instructional materials are educational resources assembled by the teachers to implement teaching programmes in the classroom. Instructional materials are special educational resources that aid the teachers to deliver the lesson. Instructional materials are used in all forms of educational institutions. The resources are influencing the implementation of teaching, research and community service in the various tertiary institutions. Timothy, et al (2021) noted that mathematics instruction materials are very importance in the administration of mathematics programme because instructional materials helps the teachers to deliver lessons in a simple ways. Students understand more when they are been taught with instructional materials.

Conclusion and Recommendations

The role of mathematics teachers in the educational institutions cannot be underestimated. Mathematics programme is one of the compulsory programme in the basic school education, secondary schools education. So, the teaching and learning of mathematics is very important and the teachers that are implementing the curriculum in the schools. The paper examined the factors that can enhance mathematics teacher's job performance in the schools. The paper identified adequate funding, supervision, training, conducive working environment, motivation and provision of instructional materials as factors that enhances job performance of mathematics in the schools. Based on this, the paper recommended

- 1) Government should increase funding of mathematics programme in the educational institutions;

- 2) Government should ensure effective supervision of mathematics by strengthened the quality assurance unit;
- 3) Government should ensure effective capacity building programme for mathematics teachers to improve their job performance.
- 4) Government should ensure working environment are conducive for mathematics teachers
- 5) Government should motivate mathematics teachers by increasing their salaries and allowances; and
- 6) Government should provide adequate instructional material for mathematics teachers.

References

1. Azenda, T., I, Ibrahim A., A. & Emmanuel, O., A (2023). Adequate Funding Panacea for Development of Mathematics Programme in Nigeria Schools. *Middle European Scientific Bulletin*, (38),10-22
2. Alemu, K. A. (2022). Effect of Work Place Environment Factors on Performance of Employees: Empirical Study on Wollo University Staff. Available at <https://assets.researchsquare.com/files/rs1560832/v1/cd5c1755e58f4 bdabecacc234d14d399.pdf?c=165 0055765>
3. Chandrasekar, K. (2011). Workplace environment and its impact on organisational performance in public sector organisations. *International Journal of Enterprise Computing and Business Systems*, 1(1), 1-19.
4. Davidson, E. (2005). The pivotal role of teacher motivation in Tanzania. *HakiElimu Working Papers*, 1-10.
5. Femi, G, T. (2013) An investigation into the challenges facing teaching and learning of mathematics programme in some selected secondary schools in Ondo State. Unpublished Project.
6. Glassdoor (2016).What does a Math Teacher do?. https://www.glassdoor.com/Career/math-teacher-career_KO0,12.htm
7. Info-guide Nigeria (2018) Problem and prospect of mathematics education in Nigeria. <https://infoguidenigeria.com/problem-prospect-mathematics- education-nigeria/>
8. Inayatullah A. & Jehangir, P (2017). Teacher's Job Performance: The Role of Motivation. *Abasyn Journal of Social Sciences*. 5, (2), 78-99
9. Kohun, S. (1992) Business environment. Ibadan: University Press Kyko OC (2005). Instrumentation: Know yourself and Others Longman Dictionary of Contemporary English (2003) 3rd editions: Harloa Pearson Educational Limited.
10. Josiah, H. F., Audu, B. C., & Ogunode, N. J. (2023). Motivational strategies and teachers" job performance in post-basic education and career development (PBECD), Nigeria. *International Journal on Integrated Education*, 6 (7), 22-31.
11. Mustafa, M., & Othman, N. (2010). The effect of work motivation on teacher's work performance in pekanbaru senior high schools, Riau Province, Indonesia. *SOSIOHUMANIKA*, 3(2), 259-272.
12. Musa, S. T. (2017) Supervision of Mathematics in Basic Schools in Nigeria. Jos.
13. Ogunode N, J., (2020a) Investigation into the Challenges Facing Planning Of Mathematic Programme in Senior Secondary Education in Abuja, Nigeria. *Journal of Mathematical Sciences & Computational Mathematics*, 18-25.
14. Ogunode N., J. (2023a).Leadership Styles and School Effectiveness. *Excellencia: International Multi-Disciplinary Journal of Education* 1(4),102-114
15. Ogunode, N., J. Kasimu, S. & Ibrahim, I. (2023). Motivation and Academic Staff of Nigerian Universities. *Best Journal of Innovation in Science, Research and Development*, 02(07) 185- 198

16. Ogunode, N. J & Josiah, H, F (2023) Deployment of Instructional Materials in Basic Schools in Nigeria: Impact, Challenges and Implications for Decision Making By School Administrators. *International Journal of Inclusive and Sustainable Education* 2(1), 118-127.
17. Ogunode, N., J, Salman, A., A. & Ayoko, V., O (2023). Motivation, Non-Academic Staff Job Performance and Tertiary Education in Nigeria. *Electronic Research Journal of Social Sciences and Humanities* 5(III),20-32
18. Sa'ad, T, U, Adamu A, & Sadiq A, M. (2014).The Causes of Poor Performance in Mathematics among Public Senior Secondary School Students in Azare Metropolis of Bauchi State, Nigeria. *IOSR Journal of Research & Method in Education (IOSR-JRME)*4, (6), 32-40.
19. Timothy A. L, Sunday A. O. & Ogunode N. J. (2021). Administration and Implementation of Mathematics Programme in Nigerian Public Secondary Schools: Problems and Prospects. *Central Asian Journal Of Mathematical Theory And Computer Sciences* , 02, (11),91-98
20. Zaifada, B. Z, Olowonefa, G. O. Ogunode, N. J (2023) Public Secondary School Administration in Nigeria. *Journal of Science, Research and Teaching*, 2, (2), 76-86

The work is very enriching but the following authors are not sited in references

21. Selamat and Tantig, 2013
22. Ogunode and Musa, 2021
23. Ogunode and Ibrahim, 2023

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